FINAL MEETING SUMMARY

HANFORD ADVISORY BOARD
RIVER AND PLATEAU COMMITTEE MEETING
May 10, 2006
Richland, WA

Topics in this Meeting Summary

This is only a summary of issues and actions in this meeting. It may not represent the fullness of ideas discussed or opinions given, and should not be used as a substitute for actual public involvement or public comment on any particular topic unless specifically identified as such.

Welcome and Introductions

Maynard Plahuta, Chair of the River and Plateau Committee, welcomed the committee and introductions were made. Proposed changes to the April meeting summary were incorporated, and the summary was adopted.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) 5-Year Review Draft

Joel Hebdon, Department of Energy-Richland Operations Office (DOE-RL), Division Director for Environmental Services, presented the draft of the CERCLA 5-Year Review, which is complete and has been posted to the CERCLA 5-Year Review website (http://www.hanford.gov/?page=182&parent=0). DOE-RL has held several public meetings to develop the draft review. Comments from these meetings along with comment responses are available online. Comments on the draft review can also be submitted online. There will be two additional opportunities for public input on the draft at workshops on May 23 in Portland, Oregon, and on May 24 in Hood River, Oregon. The 30-day comment period begins on May 8; however, DOE-RL will accept comments until the final draft is complete.

The scope of the CERCLA 5-year Review included evaluating the following questions:

1. Are the remedies functioning as intended by the decision document?

2. Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives used at the time of remedy selection still valid?
3. Has any other information come to light that could call into question the protectiveness of the remedy?

Where remedy deficiencies were identified, the review provides recommendations to make remedies operate more effectively. The CERCLA 5-Year Review also looked at each record of decision (ROD); however, Joel said it is important to recognize that no changes to the decisions are made based on the review. Instead, the review is intended to confirm that immediate threats are being addressed, and selected remedies will remain protective. The review looked at National Priorities List (NPL) sites in the 100, 200, 300, and 1100 Areas, and evaluated the protectiveness statements provided for each area. In addition, the review includes an "issues and actions" section for each area, which provides recommendations for follow-up actions.

Briant Charboneau, DOE-RL, said DOE-RL made an effort to get the regulatory agencies responsible for specific operable units as involved in the review as possible. He emphasized the review is more of a summary than an analysis; however, most of the operable units have more detailed information available for these areas, such as groundwater remedies. Briant indicated that the Environmental Protection Agency (EPA) and the Washington State Department of Ecology (Ecology) contributed to the draft review document through meetings and reviews. He said the regulatory agency review process was very thorough, and resulted in over 300 comments. DOE-RL was responsible for writing the content and incorporating regulatory agency reviews into the draft.

Regulator Perspectives

- Dennis Faulk, EPA, said he has seen several iterations of the review, and changes have been made based on comments from the regulatory agencies. However, he still does not agree with some conclusions in the report (e.g., conclusions for 100-KR-4 Operable Unit). He believes the report does not adequately address things that need to be done in some areas to meet Remedial Action Objectives (RAOs).

  Dennis indicated the review could also be used as a tool to look ahead to future remedial actions. He encouraged the Hanford Advisory Board (Board) to think about where Hanford should be in terms of cleanup over the next five years, and use the review as a baseline for the status of the site.

- John Price, Ecology, said it is important to note what is not included in the review, such as dangerous waste treatment and storage facilities, which are regulated by other documents. These actions are reviewed through a different process. He said Ecology's emphasis is on achieving groundwater protection goals. Ecology will focus on groundwater contaminants in the operable unit areas where actions are being taken.

Committee Discussion

Greg deBruler provided a committee issue manager overview. He expressed concern that the Tri-Party Agreement (TPA) agencies consider the review's assessments of the protectiveness of cleanup remedies to be limited to a current status of remedy protectiveness. He commented that assessing whether remedies are currently protective is not sufficient to achieve the goal of determining remedy protectiveness in the future. Greg said the Natural Resources Defense Council (NRDC) says the purpose of the review is to evaluate protectiveness to determine whether the remedial goals will be achieved. He said this review does not consider the long-term protectiveness of the remedy decisions. Although the review says new information needs to be addressed, a lot of new information was collected over the past five years that has not been considered.

Greg said the public's perception of protectiveness is that the water is drinkable, and the land and river can be used in the future. Regulatory requirements stipulate that the resources (land and water) must be returned to "unrestricted use." Since the next CERCLA 5-Year Review is scheduled for 2011, Greg said DOE is failing to meet its goals of returning the site to "unrestricted use" by 2012. He suggested the review should have looked to the future, not just at what is currently being done.

- *Did the review recommend the need to modify any RODs?* Briant explained that the 300 Area ROD and the 100 Area ROD were not achieving their objectives. The 300 Area ROD prescribes monitored natural attenuation to address the uranium plume, which is not working. A new conceptual model is needed to improve the understanding and characterization of the location of the uranium. DOE has agreed to conduct a new focused feasibility study for this area. In the 100 N Area, the pump and treat remedy to address strontium (^{90}Sr) cannot be proven to work. DOE has entered into agreement with the regulatory agencies to perform a treatability test to stabilize ^{90}Sr, which will be completed in the summer of 2006. Dennis added that he does not believe the ROD for the 100 K Area is functioning adequately, and there is a need to ensure the remedy is functioning. He said EPA agrees with the DOE action items in the review, but an effective remedy needs to be identified. Briant explained that either uranium characterization was not adequate five years ago, or the plume has grown. He said DOE has captured what was in the original target area, but everything has not been removed. There is a possibility to get funding to expand treatment through the annual Groundwater Program prioritization process. DOE-RL management has requested funding for this work in Fiscal Year 2008 (FY08), but it is an over-target budget request.
- *Is there a way to address in the review integration between DOE-Office of River Protection (DOE-ORP) and DOE-RL to meet characterization and remedial needs?* Joel said the difficulty in seeing the field office integration in the review is that DOE-ORP and DOE-RL operate under different regulations and objectives. Briant noted that DOE did take an action, based on the Government Accountability Office (GAO) audit from last fall, to write a Memorandum of Understanding (MOU) regarding the integration of the Resource Conservation and Recovery Act (RCRA) and CERCLA sites. He said there is a need to coordinate activities and define a strategy for these sites, and DOE hopes to have the MOU finalized in the next couple weeks.

- Susan Leckband said the public might not be able to understand and comment on the remedial actions, since it is difficult for the public to understand how they are supposed to make comments. She suggested DOE provide a clear description of how to submit comments on the CERCLA 5-Year Review website, and explicitly connect the review with cleanup activities. This would give the public a better metric for whether the review meets the intent. John said the most useful public comments are those that indicate a particular ROD might not be protective, list the reasons why, and suggest things that need to be done to achieve protectiveness. Joel said that while the CERCLA 5-Year Review is not the appropriate document for changing RODs, there is another vehicle for changing RODs. For this reason, DOE will provide a response to public comments that suggest RODs need to be changed, but will not incorporate them into the finalized review.
- Greg expressed concern that DOE is satisfied with the review serving as an evaluation of RAOs in the RODs, rather than assessing whether the goal to return resources to their highest beneficial use is being met. He commented that if the regulations dictate when the Hanford site and the groundwater are clean and when unrestricted use is viable, the 2012 target end state is not achievable. If DOE receives comments that the RODs should be amended and those comments are not incorporated into the review, he suggested people might interpret that to mean DOE is on track to meet cleanup goals. Greg hopes these comments are incorporated into a re-written review. Dennis said the regulatory agencies see the review as a tool. If the committee and the Board do not believe DOE will meet the goal to complete cleanup by 2012, the Board should communicate that to the TPA agencies. Mike Thompson, DOE-RL, noted that for some areas, such as treatment for chromium in the 200 Area, it is possible to have the resource cleaned up to the highest beneficial use by 2012.
- *How would the TPA agencies respond to a potential Board statement that, "In order to be protective in five years (by 2012) all RODs need to be compliant with the Model Toxic Control Act (MTCA)?"* Joel said the review considers and incorporates MTCA regulations and applicable or relevant and appropriate requirements (ARARs) as necessary. John confirmed that the review incorporates MTCA cleanup levels. Briant noted that MTCA is not necessarily enforceable through CERCLA, but needs to be considered.
- Greg suggested the Board consider what should be included in the CERCLA 5-Year Review, what the results of the review should be, and consider the public's expectation and perspective of the review. Briant said the Board might determine that some of these issues are outside the scope of the review, but may be necessary to address those issues in a separate document.
- Pam Larsen said it is important for the review to consider whether anything has changed over the last five years that might impact remedial decisions that have been made. She highlighted the 300 Area as a prime example, where a decision was made that the 300 Area would be for industrial use, and cleaned up to that standard. However, the industrial sector expressed no interest in industrial use of the 300 Area, so the industrial cleanup standard is not an adequate cleanup level for that area. She said the 300 Area end state and cleanup level needs to be reconsidered. Greg indicated this information does not appear in the review.

- Jerry Peltier commented that he does not believe it is useful to comment on this review. He said the review's evaluation of the remedial actions should trigger an evaluation of the RODs in place, and comments should be made on those original RODs. John said RODs can be amended, and the objective of the review is to look at the past and determine whether DOE achieved what it said it would. Dennis agreed, and added that the problem with going back to look at the RODs evaluated in the review is that they are only interim RODs. Greg said h believes there is a need to provide comments and/or advice before the final review document is issued.
- Harold Heacock suggested the committee's discussion of the review might lend itself to considering two pieces of advice: 1) an assessment of the review, and 2) a longer-term piece of advice to consider RODs and cleanup goals.
- Rob Davis commented that the planning and scoping meetings in January determined the review is a good report card of past and present remedial actions. He said evaluating future conditions would usually be done by a quality assurance (QA) report. The review serves as a useful tool for regulatory agencies to determine whether they will achieve protectiveness goals.
- Susan said the Board should consider whether outcomes from RODs are consistent with the Board's values, and, if not, whether the Board should recommend changes to interim RODs or remedial actions.
- Todd said someone from the Board should go through the review to prioritize actions based on Board values. The review suggests that as long as DOE institutional controls (ICs) are in place, then remedial actions are protective, which does not correspond to the Board's values. He said the committee seems to be interested in an analysis, which does not rely on ICs, of whether remedial actions will be protective over the long-term and when the site is released for unrestricted use.
- Greg said Ecology has the ability to perform an independent review at any time, so the Board could request Ecology conduct an independent analysis of the review. Jerry said such a review should trigger corrective actions to final decision documents already in place and future amendments to those final documents.

The committee discussed advice principles and values on the CERCLA 5-Year Review:

  - The public is the audience – DOE needs to make a clear and direct connection between the RODs and the Review. DOE also needs to direct people visiting the review website how to submit comment.
  - The review should look not just at current site conditions, but also at whether future goals are being met (i.e., returning resources to unrestricted use by 2012). This might be more relevant for a different review.
  - Reconsider the 300 Area industrial cleanup goal. Evaluate changes and new information during the past five years.
  - The budget will not support action items – the Board should advise DOE to "commit" to these things.
  - Board concerns regarding discoveries of new information that contradict prior assumptions. If there is new information, was that information evaluated, and did it change planning assumptions?

- Is the review what everyone thought it should be? The Board recommends that the review should be what everyone thought it should be.
- Several comments in the advice may be outside the scope of the review.

- Maynard and Greg agreed to draft advice on the review.

HAB Groundwater Tutorial Planning

Matt McCormick, DOE-RL, provided an introduction on Hanford groundwater contamination history, current status, and the Hanford Groundwater Project. He described the Hanford Site Groundwater Strategy document, which is available online at the groundwater project website (http://www.hanford.gov/cp/gpp/).

There are 10 operable units with some level of contamination. Groundwater protection is the primary driver for all work at Hanford. DOE-RL is focused on reducing contaminant source terms to keep contamination from reaching the river and groundwater. DOE-RL has made significant progress mitigating anthropogenic water discharges to the ground. In addition, Fluor Hanford (FH) has decommissioned over 300 high-risk wells. Pump and treat activities have proved successful at reducing contamination from historic operations in some areas. Matt said there is a need to enhance treatment of existing groundwater plumes, and DOE is looking at available technologies that could perform this function (e.g., expanding the pump and treat system in the 200 West Area to address chromium).

Part of the comprehensive Tank Closure and Waste Management Environmental Impact Statement (TC&WM EIS) includes using a new ModFlow model, which is widely used and accepted by groundwater modeling experts. The ModFlow model provides a transparent process and makes it easier for regulatory agencies to run independent analyses. As DOE conducts the TC&WM EIS, there are decisions within remedial actions that need to be made, and the model will be used to perform predictive analyses to determine impacts to groundwater.

Based on a request from its April meeting, the committee received three presentations of specific examples of groundwater challenges and modeling at Hanford for the June Board meeting: 1) 300 Area Uranium Plume, 2) 200-ZP-1 Groundwater Operable Unit CERCLA RI/FS Process, and 3) 100-N Area Groundwater Cleanup Challenges.

Presentation 1: 300 Area Uranium Plume

Mike Thompson presented information about cleanup decisions and actions regarding the uranium plume in the 300 Area, including the history of groundwater cleanup activities, and the path forward for remedial activities and modeling. Mike provided a summary of the past and future modeling used to characterize uranium contamination and guide the selection of a cleanup approach to address uranium contamination. He also described the activities DOE has performed since the first CERCLA 5-Year Review of the ROD.

Committee Discussion

- *Why is monitored natural attenuation (MNA) listed as a technology to address uranium?* Mike said MNA is part of a contaminant treatment regime and is usually combined with another technology.
- *Several committee members wondered why uranium concentrations decreased significantly in 1993, when the uranium mass was removed, but rebounded in 1996?* Mike explained that the original conceptual model assumed the mass of uranium existed in the top few feet of sediment, so removing this mass would allow the remaining uranium contamination to attenuate naturally. The 1996 ROD was based on this assumption. He said the observed decrease in uranium was actually due to the trench receiving river water, which chemically suppressed the uranium. The concentration of uranium rose again once the trench ceased receiving river water.
- *Is there a clear estimation of how much uranium is left?* Mike said one of the proposed treatability test's primary objectives is to improve uranium plume characterization. Susan commented that what is important is the amount of uranium, how it will be addressed, and how long it will take.
- *What is the concentration of uranium in the Columbia River?* Mike said the highest concentration in the river is about 0.3 picocuries/liter. He noted that the contribution of uranium to the river resulting from agricultural outfall is higher than what is released from Hanford.
- *Are there any long-term consequences resulting from the pond breaks that occurred in the 1970s?* Mike said the pond breaks were most likely ephemeral events; combined with the high dilution factor from the Columbia River, it is unlikely there are any long-term consequences.
- Dick Smith commented that it seems the excavation of uranium-contaminated soil did not address uranium contamination in the 300 Area. Although removing contaminated sediments did not completely remove uranium from the 300 Area, Mike said it was an appropriate action since it significantly reduced surface exposure.
- Todd said the presentation is important since it dovetails with the CERCLA 5-Year Review, but it needs to be shorter. He suggested reducing the history of the uranium plume. To improve the context of the information, he suggested including a slide depicting the five zones, to which each following slide should be linked. Susan said Mike's use of explanations that reduce the technology nomenclature to more understandable language for a more general audience was very good.
- Greg agreed the presentation is too long. He suggested including the specific depth at which uranium contaminated sediments were excavated. He also suggested the presentation should address other concerns in addition to drinking water, such as the issue of biotic uptake.

Presentation 2: 200-ZP-1 Groundwater Operable Unit CERCLA Remedial Investigation / Feasibility Study (RI/FS) Process

Dennis Faulk presented on the 200-ZP-1 groundwater operable unit CERCLA RI/FS process. The presentation addressed the history of multiple groundwater contamination plumes in the 200 West Area, the content and development of the RI/FS Work Plan and RI Report, baseline risk assessment, the modeling approach being used to support decision analysis, and the CERCLA RI/FS schedule. Rather than focusing just on the main contaminant risk drivers, the RI/FS is attempting to address all contaminants to the 200-ZP-1 groundwater. Dennis said the committee requested that the presentation address the Natural Resource Damage Assessment (NRDA) process, but he could not find a logical place to include it.

Committee Discussion

- *Are any contaminants naturally occurring? If so, how will those contaminants be dealt with?* Dennis said determining whether a contaminant is naturally occurring is one of the criteria for contaminant evaluation. Nitrate is one example, since there are significant sources of nitrate from agricultural activities. It is unclear how naturally occurring contaminants will be dealt with.
- *Is there any presumption that the proposed Black Rock Reservoir will impact groundwater in the 200 Area?* Dennis said Black Rock Reservoir is not being considered in this evaluation. If the reservoir is built, its impact on Hanford groundwater will be evaluated
- *Is there residual tank farm contamination involved in the RI/FS process?* Dennis said the process evaluates tank farm contamination.
- Rob commented that the presentation provides two-dimensional (2D) descriptions of a three-dimensional (3D) problem. The presentation needs to refer to the depth of sampling plumes. The committee generally agreed more time should be spent on the 3D picture. Dennis agreed that spending more time on the 3D picture is very important. He said that sampling excavation is not limited to 15 feet, since the RODs stipulate excavation must be completed to the extant of contamination, and there are several places where excavation is going much deeper than 15 feet.
- To provide additional context for the information, Maynard suggested the presentation should provide the surface area of the contaminant plume. Also, he said acronym definitions should be provided.
- To emphasize the importance of characterization, Greg suggested the presentation should explain why finding technetium 99 (Tc99) was a surprise. Also, he said the presentation should discuss the planning assumption basis for the restoration timeframe. In the description of the RI/FS process, Greg suggested the presentation describe how the process works to evaluate remedial action requirements to incorporate protectiveness.

Presentation 3: 100 N Area Groundwater Cleanup Challenges

Mike Thompson gave the presentation on 100 N Area groundwater cleanup challenges. The presentation included information on N Reactor operational history, ^{90}Sr contamination, liquid waste characteristics, disposal practices, environmental issues, development of the 1999 interim action ROD, development of a conceptual model, pump and treat operations, Interstate Technological Regulatory Council (ITRC) final list of remedial technologies, the selection of a systems approach for application of alternative interim remedial technologies, and the effects of natural radioactive decay.

Committee Discussion

- Greg commented that the original reason for employing a pump and treat system was to reduce contaminant flux, not mass. He said this background is missing from the presentation, so someone who does not know the history might think doing nothing is an appropriate response since natural radioactive decay seems to address ^{90}Sr contamination relatively quickly. In addition, he believes the presentation should give more attention to the effects of intermingling contaminant plumes and issues relative to changing river shorelines.

Tutorial Planning: Additional Topics

The committee discussed the content, format, and mechanics of the Board Groundwater Tutorial for the June Board meeting.

Committee Discussion

- There was general committee agreement that the tutorial should result in an educated Board that understands groundwater issues, plumes, the status of remedial actions, and the timeline and schedules for evaluation. With this background, the Board will be well-equipped to discuss future groundwater issues, especially budget prioritization issues. Susan indicated that it is essential to educate the Board on groundwater in anticipation of DOE developing all groundwater RODs within the next 6-10 years. John Price suggested there are three areas for potential Board advice in the near-term: 1) ICs; 2) that it may be technically impracticable to clean up groundwater completely or as soon as desired; 3) reasonable restoration timeframe.
- Greg said the committee should determine the issues that are most important for Board members to understand from the tutorial: What is modeling and how does a lack of characterization impact modeling? How do models predict field observations? What are contaminant plumes? How do requirements drive the decision process? How do past actions drive to where going in the future?
- Jerri Main said the Board needs to understand the importance of characterization, validation, and verification in modeling. Greg added that the tutorial should discuss the limitations of models, specifically the issue of uncertainty and how it is dealt with.
- Greg also said it is crucial to incorporate the lessons learned from past activities (300 Area, 200 West Area, and 100-N Area) in future decision-making processes, to ensure characterization and accurate model development.

- The committee considered designing a separate modeling tutorial; however, the committee agreed a discussion of modeling was necessary for a comprehensive discussion of groundwater and vadose zone issues. Susan said modeling should be addressed as a tool used in groundwater analysis and decisions, but perhaps the mechanics of modeling should be a separate tutorial for another time.
- Shelley will work with John Price to prepare the modeling presentation for the June Board meeting.
- Although DOE's focus has been on eliminating contaminant sources, Jerry said it is important to determine what activities should be performed once the source terms are gone. John Price agreed that the Board determining priorities for groundwater cleanup actions in terms of budget trade-offs could help the TPA agencies define a reasonable restoration timeframe and decide where to focus funding.
- John Stanfill said it would be best to have a tribal leader discuss NRDA and trust responsibilities from their perspective.
- *How do regulatory agencies work with trust responsibilities and NRDA?* John Price said NRDA is a part of CERCLA. Todd said Board members have to understand that regulatory agencies are willing to use NRDA as a tool, so a policy-level person from Ecology should indicate the agency commits to using NRDA as a tool. John said Larry Goldstein is in charge of trust responsibilities for Ecology.
- The committee decided a discussion of the national context of groundwater across the DOE complex could be dropped from the tutorial program. Todd indicated that the next Site-Specific Advisory Board (SSAB) Chairs meeting will be focused on groundwater issues at DOE sites, so a discussion of this topic may be more appropriate in the future.

The committee discussed the flow and format for the presentation.

- The committee generally agreed that the flow for the tutorial should be based on considering past groundwater activities, the current status, and future path forward.
- Rob suggested providing the Board with a basic presentation of general groundwater issues as introduction to the tutorial.
- The committee considered breaking the presentations on specific examples of groundwater challenges into smaller group discussions; however, Mike said that approach might be limited by the number of people DOE is willing to send to a Board meeting away from Richland.
- The committee agreed to drop discussion the EIS model from the tutorial program.
- Jeri wondered if there is a way to package the tutorial for Board members who cannot attend the Board meeting.

The committee refined the outline of anticipated times and content for sections of the tutorial. A revised outline will be sent out to committee members for review and comment.

Groundwater Values Product Development

The committee decided to postpone a discussion of a Board values piece on groundwater, in order to obtain feedback from the June Board meeting.

M-15 Status

John Price provided a status update on discussions to change M-15 milestones. A working group decided enough characterization data does not exist in the 200 Area, prompting the TPA agencies to develop a new milestone series, which includes more investigation, including investigation of technologies for deep vadose zone characterization. The new milestone series would coordinate some of the future groundwater decisions. DOE is waiting for feedback from the regulatory agencies, and are anticipating moving forward. John noted a draft change package will likely come out between Board meetings, which may impact the Board's ability to issue advice.

Committee Business

- The committee agreed there is a need for a meeting in June to discuss feedback on groundwater values from the June Board meeting.
- The committee decided there was no need for a May committee call.
- The committee considered coordinating its June meeting with the Washington Closure Project End States and Final Closure Project Update and Sampling and Analysis Plans (SAP) Refinement Workshop for the Interim Areas Riparian and Near-shore Assessment. John Price said he will communicate the committee's interest to have members attend the workshop or have a report on the workshop at the next committee meeting.
- A reminder was issued for interested committee members to sign-up for the N Area tour of the apatite injection. Interested members should contact Madeleine Brown at Ecology.

Action Items / Commitments

- Greg and Maynard are drafting advice on the CERCLA 5-Year Review.
- Greg will confirm with Russell Jim his willingness and availability to make the presentation on Trust Responsibilities at the June Board meeting.
- Rob and Maynard will draft content for the introduction to the groundwater tutorial.
- Shelley will assist John Price in developing the modeling presentation for the tutorial at the June Board meeting.
- John Price will communicate the committee's interest in the Washington Closure 300 Area workshop.

Handouts

NOTE: Copies of meeting handouts can be obtained through the Hanford Advisory Board Administrator at (509) 942-1906, or tholm@enviroissues.com

- 300 Area Uranium Plume: Conceptual Model Evolution and Resultant Cleanup Decisions/Actions, Mike Thompson, DOE-RL, 5/10/06.
- 100-N Area Groundwater Cleanup Challenges, Mike Thompson, DOE-RL, 5/10/06
- 200-ZP-1 Groundwater Operable Unit CERCLA RI/FS Process, Dennis Faulk, EPA, 5/10/06.
- River and Plateau Committee – Outline for Board Tutorial on Groundwater
- End State and Final Closure Project Update and SAP Refinement Workshop for the Interim Areas Riparian and Near-shore Assessment, 5/10/2006.

Attendees

HAB Members and Alternates

Shelley Cimon	Todd Martin	Wade Riggsbee
Rob Davis	Bob Parazin	Dick Smith
Greg deBruler	Jerry Peltier	John Stanfill
Ken Gasper	Gary Peterson	Gene Van Liew
Susan Leckband	Maynard Plahuta	Steve White
Jeri Main	Mike Priddy	

Others

Steve Chalk, DOE-RL	Rick Bond, Ecology	Fred Mann, CHG
Briant Charboneau, DOE-RL	John Price, Ecology	Barbara Harper, CTUIR
Joel Hebdon, DOE-RL	Madeleine Brown, Ecology	Lynn Lefkoff, EnviroIssues
Matt McCormick, DOE-RL		Jason Mulvihill-Kuntz, EnviroIssues
John Morse, DOE-RL	Dennis Faulk, EPA	Barbara Wise, FH
Michael Thompson, DOE-RL	Rob Lobos, EPA	Bruce Ford, FH
Arlene Tortoso, DOE-RL	Martha Lontz, EPA	Janice Williams, FH
Mary Burandt, DOE-ORP		Barbara Howard, FH
		Lanny Dusek, FH
		Annette Cary, TCH
		Emily Millikin, WCH